

# Atlantic Shark Fisheries

## INTRODUCTION

About 350 species of sharks are known worldwide. About 72 species frequent waters of the U.S. Atlantic, Gulf of Mexico, Puerto Rico, and U.S. Virgin Islands. For many years sharks were fished moderately and only in limited coastal areas. In recent years, large coastal sharks have been fished intensively over broad geographic areas. Sharks were first fished primarily for their livers (for vitamin A) and hides (for leather). Other minor products were fresh and salted meat, dried fins for Oriental sharkfin soup, and fish meal. The appearance of low-cost, synthetic vitamin A ended some of the small shark fisheries in 1950, and there was little demand for shark flesh or other products in the United States before 1970. From the 1980s, however, shark has become popular as food fish due to better handling, marketing, promotion, and an economy favoring low-cost shark over more expensive fish.

## SPECIES AND STATUS

The Atlantic shark fisheries are divided into three management groups: 1) Large coastal sharks [white, tiger, lemon, smooth and great hammerhead, basking, whale, blacktip, sandbar, reef, dusky, spinner, silky, bull, bignose, Galapagos, night, ragged-tooth, nurse, and scalloped]; 2) small coastal sharks [Atlantic and Caribbean sharpnose, finetooth, blacknose, bonnethead, and Atlantic angel]; and 3) pelagic sharks [longfin and shortfin mako, blue, porbeagle, thresher, bigeye thresher, oceanic whitetip, sevengill, sixgill, and bigeye sixgill]. Fig. 6-1 shows the recent catch trends for large coastal sharks. Catch rates for many of the species have declined considerably since the mid-1980s.

Large coastal sharks in both Atlantic and Gulf of Mexico waters are taken by anglers and longline fisheries. Pelagic sharks are targeted by tournament anglers, particularly off the Mid-Atlantic states, and are caught incidentally by swordfish and tuna longliners. The dockside ex-vessel revenue of the commercial shark fisheries has averaged more than \$0.7 million annually in recent years.

Of the tournament and nontournament recreational trips, the latter are more prevalent. Nontournament anglers usually catch small coastal sharks that are generally not targeted by commercial fisheries. However, commercial and recreational fisheries do affect shark fishing of each other. The Gulf of Mexico shrimp fishery catches and discards many small coastal sharks (mostly sharpnose). Also, headboat anglers depend on blacktip sharks, a species seasonally taken by longline and drift gillnet fishermen. Many southern shark tournament anglers also fish for the same large coastal species taken by commercial fishermen. Tournament anglers farther north (Mid-Atlantic states and southern New England) fish for shortfin mako and blue sharks that are caught by large pelagic longline fisheries. In another twist, sharks taken by anglers along the Atlantic and Gulf coasts are often sold to commercial fish buyers (in 1986 about 9% of the "commercial" landings were

Table 6-1.

Atlantic Sharks

*Productivity in metric tons and status of fisheries resources*

Species and Area	Recent Average Yield (RAY) <sup>1</sup>	Current Potential Yield (CPY)	Long-Term Potential Yield (LTPY)	Fishery Utilization Level	Stock Level Relative to LTPY
Large coastal sharks <sup>2</sup>	5,245	4,253	5,280	Over	Below
Small coastal sharks <sup>3,4</sup>	2,719	3,600	3,600	Full	Above
Pelagic sharks <sup>5</sup>	1,360	Unknown	Unknown	Unknown	Unknown
<b>Total</b>	<b>9,324</b>	<b>9,213</b>	<b>10,240</b>		

<sup>1</sup> 1991-93 average.

<sup>2</sup> Includes sandbar, reef, blacktip, dusky, spinner, silky, bull, bignose, Galapagos, night, tiger, lemon, ragged-tooth, nurse, scalloped, smooth and great hammerhead, whale, basking, and white sharks.

<sup>3</sup> Includes Atlantic and Caribbean sharpnose, finetooth, blacknose, bonnethead, and Atlantic angel sharks.

<sup>4</sup> Almost all of the small coastal shark yield is caught as bycatch in the Gulf of Mexico shrimp fishery and discarded at sea.

<sup>5</sup> Includes longfin and shortfin mako, blue, porbeagle, thresher, bigeye thresher, oceanic whitetip, sevengill, sixgill, and bigeye sixgill sharks.

Management of the Atlantic shark fisheries is covered in a shark FMP developed by NOAA Fisheries for the Secretary of Commerce. Since 1993, due to concerns about the sustainability of increased catches of sharks, limits on allowable catches of these species have been in effect.

taken by rod-and-reel fishermen).

A mobile longline fishery also targets large coastal sharks in both Atlantic and Gulf waters, taking several species important to anglers. Fish buyers prefer sharks of 7-23 kg (dressed weight), but larger sharks have been taken just for their fins. Other boats use gill nets, including drift gill nets, to catch blacktip shark near shore in late summer and early autumn. Gulf snapper-grouper boats, particularly bottom longliners, also land sharks. Many sharks caught by Gulf shrimp trawlers are discarded at sea, but large valuable sharks are kept and sold.

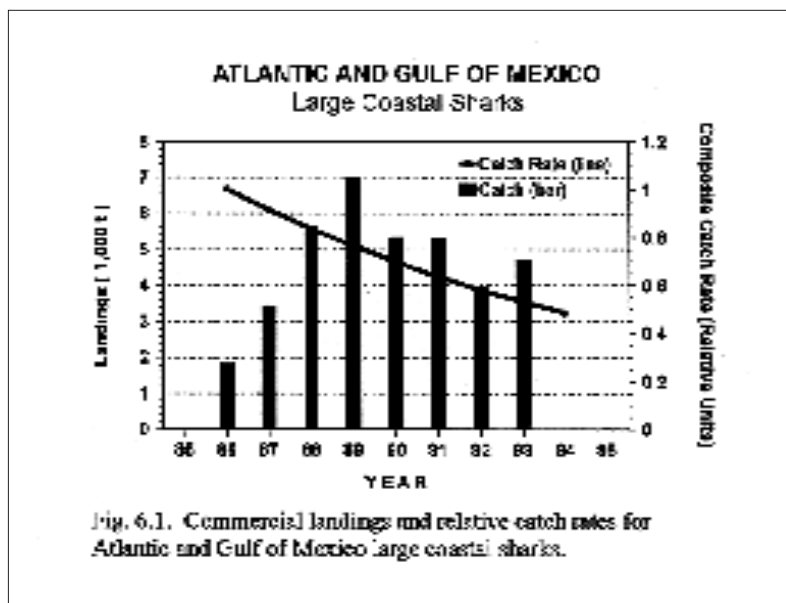
Many sharks also are caught in the pelagic swordfish and tuna longline fishery. Some are discarded at sea, though certain species such as shortfin mako are regularly landed owing to their market value.

The data available on shark fisheries are very limited. Many species are landed and classified only as "shark" by fishermen and dealers in the market. To overcome some of these data deficiencies, newly developed assessment models were applied to the data available to generate assessment information by group. The summary on status of the stocks is given in Table 6-1. Large coastal sharks are considered overutilized; small coastal sharks are considered fully utilized. There is insufficient information to assess the status of pelagic sharks.

## ISSUES

### Scientific Information and Adequacy of Assessments

Species of shark are numerous and are difficult to distinguish. The market generally does not categorize sharks by species. This complicates scientific analysis. Thus assessments have been made for groups of species. There is a critical lack of data on shark numbers, biology, distribution, life history, and harvest. Without such data, it is difficult to assess the status of individual species.



## Management Concerns

Recreational and commercial fishermen have both voiced concern about declining shark populations. Because sharks grow and reproduce slowly, they are very vulnerable to overfishing.

### Large Coastal Shark Commercial Landings (t)

1992	5,300
1993	3,900

## PROGRESS

A new FMP was developed and implemented by NOAA Fisheries for sharks in 1993. It regulates commercial and recreational shark fishing to prevent overfishing, prohibit the practice of finning, discourage discarding of shark carcasses, rebuild currently overfished stocks, and improve data collection. In 1995, research via broad-scale fishery independent surveys was initiated. □

